

S/N 10/656,070

PATENT

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Lyons et al.	Examiner:	Josiah C. Cocks
Serial No.:	10/656,070	Group Art Unit:	3749
Filed:	September 5, 2003	Docket:	12929.1062USC1
Customer No.:	23552	Confirmation No.:	8343
Title:	Monolithic Panel for a Gas Burner		

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**DECLARATION OF DAVID C. LYONS UNDER 37 CFR 1.132**

I, David C. Lyons, declare and say as follows.

1. I am an engineer for Hearth & Home Technologies Inc. (herein referred to as "HHT," formerly Hearth Technologies Inc.), a subsidiary of HNI Corporation, and I have worked at HHT or companies related to HHT, including Heat-N-Glo Fireplace Products, Inc., for approximately the past twelve (12) years.

2. I am a named inventor for the above-referenced application (Serial No. 10/656,070).

3. I have worked with refractory ceramic fiber molding techniques for at least the last ten (10) years. I have worked specifically with compression molding techniques and the use of techniques to form articles for use in fireplaces for the last five (5) years.

4. During my extensive experience working with refractory ceramic fiber molding techniques, I have been involved in the search for molding techniques that create articles that exhibit both strength and malleability while still providing the necessary heat resistant properties for use in fireplaces.

5. Various prior art techniques for molding refractory ceramic fiber are known. Examples of such techniques include:

- a. U.S. Patent No. 5,941,237 to Shimek et al. - This patent discloses a casting technique involving the use of a castable slurry that is poured into a mold and formed into a molded article.
- b. U.S. Patent No. 6,361,725 to Sinsley - This patent discloses a vacuum molding technique involving the use of pressure to force a slurry including synthetic mineral wool fiber through a screen to form a molded article.

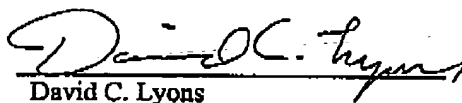
6. Although there are known techniques for molding refractory ceramic fiber, there are distinct disadvantages associated with such techniques. These disadvantages include:
  - a. Prior art molding techniques can only be used to form articles that are relatively simple in design. Complex designs cannot easily be created using prior art molding techniques.
  - b. Prior art molding techniques result in articles that typically are weak and difficult with which to work.
7. I recognized the problems associated with prior art molding techniques and strived to invent new techniques that solved these problems. In addition, others in the industry have understood the problems and have worked to develop solutions.
8. The present application includes claims that recite a burner or a fireplace including a burner panel substantially comprising a compression molded material including an inorganic fiber, and methods for making same.
9. There are many advantages associated with burner panels made from a compression molded material including an inorganic fiber. These advantages address the problems associated with prior art molding techniques.
10. For example, burner panels that are made from compression molded material can exhibit one or more of the following advantages over articles made from prior art molding techniques:
  - a. greater flexibility in creating more detailed and complex designs during the compression molding process, such as the ability to mold in details and create thinner-walled panels that cannot be created using prior art molding techniques such as a vacuum molding process;
  - b. greater strength in the resulting compression molded article - up to a ten-fold increase in strength over articles created using prior art molding techniques;
  - c. greater malleability of the resulting compression molded article, such as the ability to cut, drill, and otherwise shape the compression molded article as desired - for example, a compression molded article can be cut to a desired size and holes can be drilled to attach fasteners to the article, while a vacuum molded article cannot be easily cut or have holes drilled therein because the material typically flakes or crumbles when cut or otherwise manipulated; and

d. compression molded articles form a non-porous material that resists gas seepage, which is different from articles created using prior art molding techniques such as porous vacuum formed materials.

11. I am unaware of any disclosures that pre-date the present application related to a burner or a fireplace including a burner panel substantially comprising a compression molded material including an inorganic fiber, and methods for making same.

12. I declare that all statements made are of my own knowledge and are true, and that all statements made on information and belief are believed to be true and I have been warned that willful false statements and the like are punishable by fine or imprisonment, or both (18 U.S.C. §1001), and may jeopardize the validity of the application resulting therefrom.

Date: 2-17-05

  
David C. Lyons